

Connecticut State Board of Education  
Hartford

## Position Statement on Mathematics Education

Adopted June 7, 2006

In a time of increasing globalization and international exchange, students in Connecticut must have the understanding, confidence and interest in mathematics to meet the needs and challenges of a global society. The Connecticut State Board of Education believes every student needs and deserves a rigorous mathematics program that is focused on the development of concepts and the acquisition of basic and advanced skills. Basic skills and conceptual understanding are entwined, and both are necessary before students can successfully apply mathematics, conceptualize problems and solve them. Students need to understand how and why mathematical procedures work. This enables them not only to find a simple answer to an arithmetic problem, but also to develop many approaches to solving complex mathematics problems.

All students must be mathematically literate to make informed decisions about the world around them and ensure success in postsecondary study and in work. An individual who is mathematically literate:

- has a deep understanding of big ideas within the number, algebra, geometry, probability, and statistics standards;
- is able to compute, reason and communicate mathematically when solving problems;
- uses a variety of strategies, tools and technology to solve mathematics problems; and
- understands the application of mathematics to daily life.

A quality mathematics education fosters mathematical literacy and appreciation for mathematics. PreK-12 mathematics education programs should prepare students to meet the expectations outlined in the 2005 Connecticut Mathematics Curriculum Framework.

Everyone has a role in providing all children with access to a quality mathematics program.

**The Department of Education plays an essential role in ensuring a quality mathematics program by:**

- establishing high standards that emphasize core mathematical skills and concepts for all students;
- establishing standards that ensure teachers of mathematics are highly qualified;
- developing state assessments that are aligned with the learning expectations described in the mathematics curriculum framework;
- providing focused training for teachers and school leaders in mathematics education;
- recognizing and disseminating best practice; and
- developing statewide partnerships with business, industry and higher education that support mathematics interest and learning in our schools.

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### **School districts play an essential role in ensuring a quality mathematics program by:**

- developing PK-12 curriculum and courses of study that are guided by the mathematics curriculum framework;
- hiring highly qualified teachers and supporting them with ongoing professional development to effectively teach mathematics;
- providing all students with ample time and support to learn mathematics;
- providing all teachers and students with high-quality instructional resources, including manipulatives, tools, technology and textbooks;
- offering rigorous courses with high expectations that challenge students' abilities; and
- providing opportunities and time for teachers to share best teaching practices and support one another in helping students learn mathematics.

### **Teachers play an essential role in ensuring a quality mathematics program by:**

- creating supportive classrooms that foster mathematical literacy in all students;
- planning units and lessons that use appropriate strategies, tools and technology to engage students in learning mathematics;
- challenging students to think critically and problem solve;
- monitoring student achievement regularly in a variety of ways;
- adjusting instruction to accommodate students with diverse needs, abilities and interests;
- working with parents on conveying the importance of doing well in mathematics and supporting them in helping their children; and
- encouraging students to investigate careers in mathematics.

### **Teacher and administrator preparation programs play an essential role in ensuring a quality mathematics program by:**

- developing educators with a deep understanding of mathematical concepts and skills;
- preparing educators who are knowledgeable in the effective teaching of mathematics;
- assuring that educators learn statistical skills to measure, monitor and report student progress;
- giving future elementary and secondary teachers multiple opportunities to work in schools and learn from veteran teachers of mathematics before earning certification; and
- providing opportunities and time for practicing professionals to advance their understanding of mathematics and focus on improving practice.

### **Parents play an essential role in ensuring a quality mathematics program by:**

- talking with their children about the mathematics they are learning at school and how it relates to daily life;
- working with teachers to support their children's learning; and
- encouraging their children to participate in high-level mathematics courses and activities.

To meet the goals outlined above, the Connecticut State Department of Education develops statewide partnerships with the community, including higher education, business, mathematics organizations, parents and educators in support of mathematics education in schools. The Department encourages students to take challenging mathematics courses to foster the growth of intelligent, thoughtful and mathematically literate members of society.